

STAC Enterprise Energy Management Demonstration for Industrial Facilities

Del Monte Foods and Lawrence Berkeley National Laboratory (LBNL) received funding from the State Technologies Advancement Collaborative (STAC) to install an Enterprise Energy Management (EEM) system at Del Monte Foods' Modesto, CA fruit processing plant. STAC was established by U.S. DOE to work with states and others on energy research, development, demonstration, and deployment. In addition to Del Monte Foods and LBNL, project participants included energy organizations from four states, and two food processing associations.

Enterprise Energy Management (EEM) systems collect, archive, and visualize facility energy data including water, air, gas, electricity, and steam (WAGES) to:

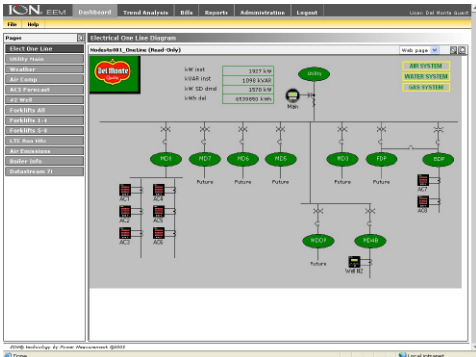
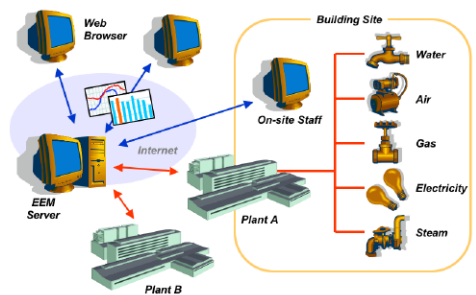
- Identify and improve system energy efficiency
- Improve preventive maintenance practices
- Facilitate energy benchmarking
- Optimize utility procurement
- Manage overall energy costs

LBNL worked with Del Monte Foods to:

- Compile a list of and create the filtering criteria for potential EEM vendors
- Evaluate proposals and define scope of work
- Identify EEM measurement points for initial demonstration
- Analyze data from the EEM demonstration to identify energy efficiency improvement opportunities (in process).

Contacts:

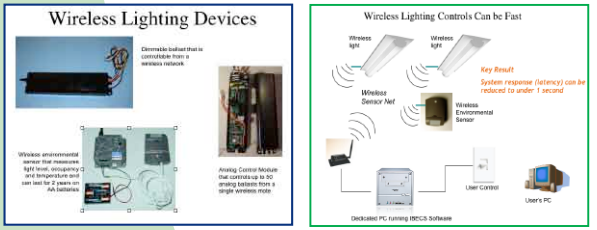
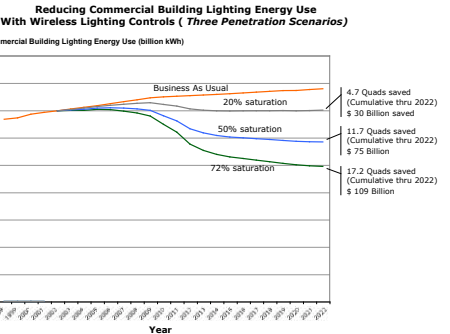
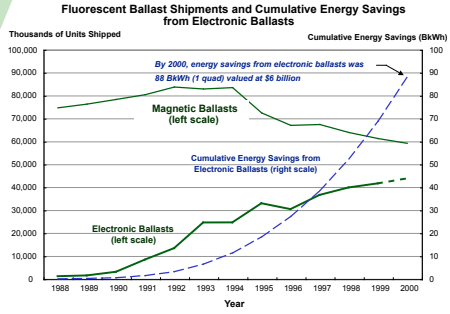
Aimee McKane	David S. Watson
Tel: 518.782.7002	Tel: 510.486.5562
E-mail: atmckane@lbl.gov	E-mail: dswatson@lbl.gov



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Environmental Energy Technologies Division

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THE COOL COLORS PROJECT

<http://CoolColors.LBL.gov>



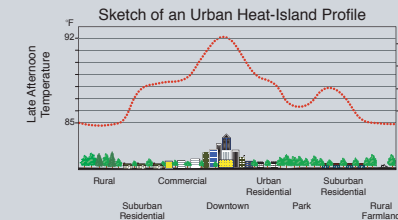
Heat Island Group
Environmental Energy Technologies Division
Lawrence Berkeley National Laboratory
Berkeley, California

<http://HeatIsland.LBL.gov>

BERKELEY LAB
PIER
OAK RIDGE NATIONAL LABORATORY
MANAGED BY ORNL FOR THE U.S. DEPARTMENT OF ENERGY

"Cool" Roofs

- Better reflect sunlight
- Keep buildings cooler
- Save money by reducing the need for air conditioning (less energy, smaller A/C units)



Cool Cities

The widespread application of cool roofs can lower outdoor air temperatures, which

- Slows the formation of smog
- Decreases afternoon demand for cooling power (avoiding brownouts/blackouts)

Applying white roofs to commercial buildings and cool colored roofs to homes could yield net U.S. energy savings worth more than \$750 million per year

Raising the solar reflectance of a roof from 20 percent (medium gray) to about 55 percent (weathered white) can reduce cooling energy use by 20%

Flat-roofed commercial buildings may be fitted with white roofs ...but U.S. homeowners typically demand nonwhite roofs

Types of Cool Roofs for Homes

- Metal • Clay tile • Concrete tile • Wood shingle • Asphalt shingle

Thanks to Berkeley Lab researchers and their partners, consumers will soon see a variety of new cool colored roofing products that will help them save energy and increase comfort in their homes.

Berkeley Lab is working with manufacturers to create cool versions of all these materials.

Funding and Industrial Partners

- Funded by the California Energy Commission.
- Berkeley Lab has partnered with Oak Ridge National Laboratory and 16 industrial partners.

1. The industrial partners have brought cool metal, tile, and a limited selection of asphalt shingle roofing products to market.
2. The solar reflectance of commercially available tile and metal roofing has increased from 5-25% (before project)

- to 30-45% (after project).
3. Berkeley Lab has developed two tools to help manufacturers create new products: a database of cool pigments, and software for the design of color-matched coatings with high solar reflectance.

JUST ARRIVED: Asphalt shingles with solar reflectances of 25% or higher—qualifying for an ENERGY STAR® cool roof label.

